

KENTUCKY SEEM ADMINISTRATIVE PLAN

Kentucky Plan
Version ~~3.01~~ 3.02

Effective Date: ~~April 19, 2008~~ December 15, 2008

~~Note: This SEEM Administrative Plan version is issued to reflect the OSS architecture changes implemented on April 19, 2008.~~

D.2.3 Obtain a Truncated Z Value for each Cell (Z_j^*)

To limit the amount of cancellation that takes place between cell results during aggregation, cells whose results suggest possible favoritism are left alone. Otherwise the cell statistic is set to zero. This means that positive equivalent Z values are set to 0, and negative values are left alone. Mathematically, this is written as

$$\underline{Z_j^* = \min(0, Z_j)}$$

D.2.4 Calculate the Theoretical Mean and Variance

Calculate the theoretical mean and variance of the truncated statistic under the null hypothesis of parity, $E(Z_j^* | H_0)$ and $\text{Var}(Z_j^* | H_0)$. To compensate for the truncation in step 3, an overall, weighted sum of the Z_j^* will need to be centered and scaled properly so that the final overall statistic follows a standard normal distribution.

- If $W_j = 0$, then no evidence of favoritism is contained in the cell. The formulae for calculating $E(Z_j^* | H_0)$ and $\text{Var}(Z_j^* | H_0)$ cannot be used. Set both equal to 0.
- If $\min(n_{1j}, n_{2j}) > 6$ for a mean measure, or $\min\left\{a_{1j}\left(1 - \frac{a_{1j}}{n_{1j}}\right), a_{2j}\left(1 - \frac{a_{2j}}{n_{2j}}\right)\right\} > 9$ for a proportion measure, $\min(n_{1j}, n_{2j}) > 15$ and $n_j q_j (1 - q_j) > 9$ for a rate measure, then

$$E(Z_j^* | H_0) = -\frac{1}{\sqrt{2\pi}}$$

and

$$\text{Var}(Z_j^* | H_0) = \frac{1}{2} - \frac{1}{2\pi}$$

- Otherwise, determine the total number of values for Z_j^* . Let z_{ji} and θ_{ji} , denote the values of Z_j^* and the probabilities of observing each value, respectively.

$$E(Z_j^* | H_0) = \sum_i \theta_{ji} z_{ji}$$

and

$$\text{Var}(Z_j^* | H_0) = \sum_i \theta_{ji} z_{ji}^2 - [E(Z_j^* | H_0)]^2$$

The actual values of the z's and θ 's depends on the type of measure.